Intermontanus

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NEW & ANNOUNCEMENTS

DRAFT OF THE DIVISION OF WILDLIFE RESOURCES CLASSIFICATION: NATIVE UTAH WILDLIFE SPECIES OF SPECIAL CONCERN

The Division of Wildlife Resources is in the process of updating the list of species of special concern. As far as I know the last day for public opinion was 16 October 1992. Unfortunately, a mutual misunderstanding between the DWR and myself hindered our receiving a copy in time for official comment. In the future, I will try to obtain herp related information early enough for us to submit our comments.

The main amphibian and reptile section of the DWR's list is presented here. I have eliminated a section which simply lists the herps presented below, and a very incomplete table of herp distributions. What is included below is a word for word copy of the main body of the herp section of the draft document. It is important to understand this is a draft. The final list may be different.

DWR Draft:

"Wildlife" means brine shrimp, crayfish, and species of vertebrate animals living in nature, except feral animals.

Extinct: Any wildlife species that has disappeared in the world.

Extirpated: Any wildlife species that has disappeared, as a part or full-time resident, from the state [of] Utah since 1800.

Endangered: Any wildlife species, subspecies, or population which is threatened with extirpation from Utah or extinction resulting from very low or declining numbers, altering and/or reduction of habitat, detrimental environmental changes, or any combination of the above. Continued long-term survival is unlikely without implementation of special measures.

Threatened: Any wildlife species, subspecies, or population which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range in Utah or the world.

Sensitive: Any wildlife species which, although still occurring in numbers adequate for survival, who's population has been greatly depleted, is declining in numbers, distribution, and/or habitat **(S1)**; or occurs in limited areas and/or numbers due to a restricted or specialized habitat **(S2)**. A management program, including protection or enhancement, is needed.

Amphibians: Extinct

Relict (Utah) Frog (*Rana onca*): This species once occurred in several springs along the Virgin River in Washington County. Rumors persist that this member of the leopard frog-complex still exists. If so, it is probably the rarest North American frog.

Threatened

Spotted Frog (*Rana pretiosa*): This species inhabits shallow, spring or creek-fed marshes and seeps along the Wasatch Front and in select areas in the West Desert. Recent Surveys indicate a number of populations of limited size. This species may be two separate species. Habitat loss, competition with other frogs and environmental contaminants may be impacting this species.

Sensitive: (S1: Due to declining populations)

Boreal (Western) Toad (*Bufo boreas*): This species has experienced recent declines in some areas of the Rocky Mountains. These declines may be related to depletion of the ozone layer, environmental contaminants and habitat loss. This species, occurring in higher elevations in Utah, has been noticeably absent in former locations in recent years.

Arizona Toad (*Bufo microscaphus*): This toad occurs in southwestern Utah and hybridizes with woodhouse's toad. Further reasons for population declines are unknown.

Lowland Leopard Frog (*Rana yavapaiensis*): This species of "Leopard frog", first described in 1984 from Arizona, also is known from an area near St. George. Reproductive mechanisms have isolated this species from other ranid frogs on Zion National Park, Utah. It is not known if any viable populations of this species still exist in Utah or adjacent states.

(S2: due to limited distribution): Most of the species listed in this category are associated with the Mojave Desert, which, in Utah, only occurs in southwestern Washington County. Thus, the distribution in Utah is limited.

Pacific Treefrog (*Hyla regilla*): A few specimens exist from southwestern Washington County and unverified records have been reported from the Columbia-Snake River Plateau in northwestern Utah.

Reptiles: Endangered

Gila Monster (*Heloderma suspectum*): The only venomous native lizard in the United States. This lizard, threatened with extirpation due to overcollection and habitat loss, occurs in limited numbers in southern Washington County.

Desert Tortoise (*Gopherus agassizii*): The only terrestrial turtle native to Utah. This Mojave Desert reptile occurs in declining numbers on the Beaver Dam Slope and other areas near St. George. (The species is in danger of extirpation due to habitat alteration and loss, impacts due to livestock grazing, and a respiratory tract disease.) Populations have declined as much as 75% in Utah.

Threatened

Chuckwalla (*Sauromalus obesus*): Two subspecies occur; one in southwestern Utah and another along Glen Canyon. This large lizard is listed as a Federal Category 2.

Sensitive: (S1: Due to declining populations)

Utah Mountain Kingsnake (*Lampropeltis pyromelana*): This colorful tri-colored snake occurs in disjunct populations in the Utah mountains. Population declines, although difficult to detect in this secretive species, are believed due to habitat impacts and overcollection. This species, although widespread in Utah, occurs in localized populations.

Utah Milk Snake (*Lampropeltis triangulum taylori*): This species, attractive to snake fanciers, is spottily distributed in the mountain region of eastern and central Utah. Distinct distribution and habitat changes may be factors in its apparent decline.

(S1/S2: Due to declining populations within limited distribution)

Many-lined Skink (*Eumeces multivirgatus*): Occurs on the Colorado Plateau in Southwestern Utah. Few locations are known from Utah. The number of observations of this reptile have declined in recent years.

Plateau Whiptail (*Cnemidophorus velox*): Few locations are known from Utah. The number of observations of this reptile have declined in recent years.

Great Plains Rat Snake (*Elaphe guttata emoryi*) Although common in western Colorado, there are few locations are known from Utah. The number of

observations of this reptile have declined in recent years.

Western Smooth Green Snake (*Opheodrys vernalis*): This species is known from but a few locations in the Uinta Mountains and southeastern Utah.

(S2: due to limited distribution)

Most of the species listed in this category are associated with the Mojave Desert, which, in Utah, only occurs in southwestern Washington County. Thus, the distribution in Utah is limited.

Desert Iguana (*Dipsosaurus dorsalis*): Enters Washington County up to 2 miles from northern border of Arizona, as per early records. Very Scarce.

Desert Night Lizard (*Xantusia vigilis*): Two subspecies in Utah; one in Washington County, the other in southeastern Utah.

Utah Banded gecko (*Coleonyx variegatus*): Occurs in very dry habitats, often in association with rocks. Geckos are nocturnal and only occur in Washington County.

Zebra-tailed Lizard (*Callisaurus draconoides*): Occurs in washes and hardpan in southwestern Utah.

California Kingsnake (*Lampropeltis getulus californiae*): Most common in Washington County; occurs in south-central riparian areas of Utah.

Utah Black-headed Snake (*Tantilla hobartsmithi*): Probably one of the rarest snakes in Utah. This secretive, ground-dwelling snake occurs in canyon bottoms beneath cover along the Colorado River Valley

Desert Glossy Snake (*Arizona elegans*): Active at night and occurs in southwestern Washington County and southeastern Utah.

Arizona Lyre Snake (*Trimorphodon biscutatus*): Occurs only in far southwestern Utah.

Utah Blind Snake (*Leptotyphlops humilis*): Only occurs in Washington County.

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Mojave Patch-nosed Snake (*Salvadora hexalepis*): Occurs primarily in Washington County. This rapid-moving snake is found in both sandy and rocky areas near the Arizona border.

Speckled Rattlesnake (*Crotalus mitchellii*): Very limited range of the Mojave Desert in southwestern Washington County, below 8,000 feet in elevation.

Mojave Rattlesnake (*Crotalus scutulatus*): This rattlesnake occurs in upland desert and lower mountain slopes in far southwestern Washington County.

Sidewinder (*Crotalus cerastes*): This species, limited in distribution to the Mojave desert ecosystem in Washington County where rodent dens occur in sandy areas.

FEATURES

IN SEARCH OF CALIFORNIA CAVE AND CREVICE SALAMANDERS

Some of the more fascinating stories in the herpetological literature relate to the discovery of the three species of California cave and crevice salamanders (genus *Hydromantes*). It began in 1915 when a group of scientists from the University of California at Berkeley were determining the kinds of mammals inhabiting the base of Mount Lyell in Yosemite National Park. Two salamanders of a previously undescribed species were captured simultaneously in—a spring-clip mouse trap set in front of a small hole running into moist soil beneath some rocks (Camp 1916). The salamanders were taken on the rocky, snow-covered north slope of the mountain about a mile from the glacier at 10,800 feet elevation. They were henceforth named Mount Lyell salamanders (*Hydromantes platycephalus*). Subsequent searches for these amphibians led to discoveries of colonies of them in a number of locations in Yosemite and Sequoia National Parks, with only a few collecting sites being outside these parks. Mount Lyell salamanders are small (about 4" long) gray animals with lichen-like markings resembling the granite rocks of the region.

About this same time (1910) a man named Eustace L. Furlong collected some cave salamanders above Squaw Creek in Shasta County, California. His salamanders were poorly preserved so were not described at that time. Scientists attempted to rediscover the location of the cave and it was not until 1950 that Joe Gorman did so (Gorman and Camp 1953). These salamanders were found in the area of Shasta Reservoir near Redding, California. They are brown in color and because of their location and genotype were named Shasta salamanders (*Hydromantes shastae*). This animal is more heat tolerant than the Mount Lyell salamander, since it is found at lower elevations (1100-2500 feet compared to 5000-10,000 feet). Gorman studied the Shasta salamanders in some detail and published an article on their breeding habits (Gorman 1956). He alluded to other studies he might publish but I haven't been able to find them, suggesting he may never have done it.

Gorman's passion for *Hydromantes* led him to investigate other potential colonies of these salamanders in California. He began studying geological maps to locate limestone deposits where these animals might be found. His efforts led to the remarkable discovery of a new species of *Hydromantes* in a most unlikely place. In the Merced Canyon just off the main highway about 30 miles from Yosemite National Park he and his wife were hunting a 1200 foot high cliff, finding what was later called *Hydromantes brunus*, the Limestone salamander (Gorman 1954). Their first finds were made under rocks near the roadway. Since that time one other location eight miles south of the original site was found that also has a colony of limestone salamanders. The new species of salamander is brown, and has a body color resembling *Hydromantes shastae* more than it does *H. platycephalus*.

The three species of *Hydromantes* from California are interesting in that they have webbed feet used for crawling up and down vertical rock surfaces, and have long tongues for catching insects. They are related to two other members of the genus, the Italian cave salamander, *Hydromantes italicus*, and the Sardinian cave salamander, *Hydromantes genei*. The Italian form is yellow and the one from Sardinia (Sardinia is a 300 mile long island off the west coast of Italy in the Mediterranean Sea) is brown or brownish-black.

I became fascinated with these salamanders and developed a desire to search for them. Even if I did not find any, I wanted the experience of just being at the locations where others had found them. It is somewhat like being at a famous historical site. My search began over three years ago. Our family vacation took us through Redding, California and I insisted that we camp for a day at Shasta Reservoir. My initial concept of hunting the Shasta salamander was to find these animals living on the slope of Shasta volcano. This turned out to be a fallacy since the volcano is 40 miles north of the reservoir.

Shasta Reservoir is large and has many finger-like inlets to it. Before I knew about the original article by Gorman and Camp (1953), I used Stebbins' field guide (1985) and a map provided by the forest service near the reservoir to help me go to likely spots. We went to the McCloud River arm of the reservoir and to Samwell Cave. There was no problem finding the cave. It was about 3/4 mile from the road on a marked trail. The entrance to the cave was large but then to actually get into the interior, the hole was only about three feet in diameter. A door grate (steel bars like a jail cell) was over the entrance and it was locked. The ranger told us in advance that the cave would be locked but that we could get a key to go in if we wanted to. He also said the cave had some dangerous drop offs, and since we were not serious spelunkers we decided not to go in (I had my young family with me). The outer part of the cave where we had access to was bone dry (it was mid-July) and as might be anticipated no salamanders were out. As far as the rest of our stay there was concerned, we went through Shasta Caverns, which is a tourist cave in the area. It is more impressive than Timpanogas or Minnetonka Caves in Utah.

Last year (in July again, bad time for salamander hunting but who takes vacations in March?) we went to Yosemite National Park. I planned the route to go right past the site of the Limestone salamander discovery. According to Gorman (1954), the cliff is 0.7 miles east of Briceberg at the confluence of Bear Creek and the Merced River. As we drove in from the south following Bear Creek, soon the Merced River came into view, but the town of Briceberg was nowhere to be found. We kept looking and looking and finally ended up 15 miles later at a motel where we were to rendezvous with our relatives. I was bewildered over the situation and asked a store clerk if Briceberg really existed. He assured me that it did but that it was not very large. He said there was a visitor's center of sorts in Briceberg that I should look for. Well, while the wife and kids had fun swimming on that sweltering day, I got in the car and drove back to look for Briceberg. Fifteen miles later there it was, one stone block building right at the junction of Bear Creek and the Merced River. It turned out that the building was on the left side of the road as one drives east and my peripheral vision missed it. Actually Briceberg is a camping place and the one building must be where the employees work. The building has a big sign on it that says "Briceberg".

Having achieved this great objective, I proceeded to drive 0.7 miles east and then stopped the car. There above me was the huge cliff described, not terribly steep (one could hike up it but not without effort), but a formidable habitat for salamanders. The cliff was brown and dry, far different from the " mossy cracks and dripping water" habitat described by Gorman (1954). Gorman found his first specimens in February (when it normally rains in California) of 1952, and I suspect that salamanders are only found there in early spring. California has been hammered by six years of drought the same as Utah, and the Merced Canyon environment has also taken a severe beating. I was amazed these amphibians are even there at all, but so are other species of salamander, such as the arboreal (*Aneides lugubris*), ensatina (*Ensatina eschsholtzii xanthoptica*), and slender (*Batrachoseps attenuatus*) species (Gorman 1954). I took photographs both of Briceberg and of the cliff, and kept a rock from Gorman's site as a souvenir.

In Yosemite National Park we hiked to the closest accessible places where Mount Lyell salamanders have been found, Vernal Falls and Nevada Falls (actually off the trails near these falls). Few people would consider going to Mount Lyell itself, since it is miles from nowhere. The likely spots near the falls are areas where water flows down the slope under granite rocks. Even though this was July the region had received some rain, so we were able to find these water flow areas. But being July, this meant that the salamanders were long since underground. I asked a ranger when he had seen salamanders in the park (the *Ensatina* variety), and he said in May. Similar to what I did near Briceberg, I kept a granite rock with lichen-like markings as a souvenir to remind me of the Mount Lyell salamander.

As a final note, I attended a scientific meeting in Sardinia a few years ago and hoped to see the Sardinian cave salamander. The island is relatively dry and is covered with thorny bushes about four feet high, with high mountains in the middle of the island. Unfortunately we were on the northernmost point of the island where no cave salamanders occur (no caves either). I was fortunate to have been able to visit all these places in search of cave and crevice dwelling salamanders. As far as collecting goes, one needs to be at the right place at the right time, which did not exactly fit the scenarios I described above.

Because of its restricted habitat, the limestone salamander is on California's endangered species list, so no collections or disturbances of it are permitted. I am not sure of the status of the Shasta salamander. The Mount Lyell salamander is afforded federal protection within the national parks. I do not know if collecting outside national parks is permitted. In any event, the Mount Lyell salamander would make a very unsuitable pet because of its cold-loving nature. One would have to keep it in a refrigerator (slightly warmer than the usual setting). Years ago, before environmental concerns became an issue, the Shasta salamander was maintained at temperatures below 70°F with no problems (Gorman and Camp 1953).

For additional reading on the topic of *Hydromantes* in California, the reader may enjoy the book by Stebbins (1951) and a booklet by Basey (1976). Basey's booklet on Sierra Nevada reptiles and amphibians has great photos and is a real bargain at $4. Also, in Stebbins' field guide (1985) he describes not-so-slender California slender salamanders which are very similar in form and color to the Mount Lyell salamander. One of these, the Inyo slender salamander (*Batrachoseps campi*), was named after the herpetologist who reported the discovery of the Mount Lyell salamander. Maybe these would be easier to find than California cave and crevice salamanders, if one were ever to go looking for them (at the right time of the year, of course).

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Note: All three Hydromantes species are listed as Federal Category 2 species and are protected by the state of California.

UPCOMING EVENTS:

After the holidays we will try to hold meetings about every two or three months. Future meetings will include a talk on turtles and locomotion and a slide show of Utah herps. The slide show will be open for everyone to bring pictures.

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